Blood pressure management: Sleep on it

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A daytime sleep could have cardiovascular benefits according to new research by Ryan Brindle and Sarah Conklin, PhD, from Allegheny College in Pennsylvania in the US. Their study, looking at the effect of a daytime nap on cardiovascular recovery following a stress test, found that those participants who slept for at least 45 minutes during the day had lower average blood pressure after psychological stress than those who did not sleep. The work is published in Springer's journal *International Journal of Behavioral Medicine*.

Long work schedules, shift work, increased anxiety and a greater use of the internet and television late at night - all characteristics of our modern society - have had an impact on nocturnal sleep. We no longer sleep as long as we used to: The average sleep duration is now almost 2 hours shorter per night than it was 50 years ago. And this could be impacting our long-term health. For example, sleeping less has been linked to an increased risk of hypertension and cardiovascular problems generally.

Brindle and Conklin's experiment examined how daytime sleep might influence cardiovascular recovery after a mental stress test in the laboratory. They split 85 healthy university students into two groups: One group was allotted a 60-minute interval during the day when they had the opportunity to sleep; the other group did not sleep during the day. The researchers also asked the students to complete questionnaires assessing sleep quality and complete a cardiovascular reactivity task, involving a complex mental subtracting exercise. Brindle and Conklin measured the students' blood pressure and pulse rates at regular intervals throughout the experiment.

They found that daytime sleep seemed to have a restorative effect with students in the sleep condition reporting lower scores of sleepiness than those who did not sleep. Although blood pressure and pulse rates rose in both groups between baseline and the stress phase, during the recovery phase, those who had napped had significantly lower average blood pressure readings than those who had not slept. These results show that sleeping between 45 and 60 minutes during the day appears to facilitate blood pressure recovery after a mental stress task in the laboratory.

Brindle and Conklin conclude: "Our findings suggest that daytime sleep may offer cardiovascular benefit by accelerating cardiovascular recovery following mental stressors. Further research is needed to explore the mechanism by which daytime sleep is linked with cardiovascular health and to evaluate daytime sleep as a recuperative and protective practice, especially for individuals with known cardiovascular disease risk and those with suboptimal sleep quality."

More information: Brindle RC and Conklin S (2011). Daytime sleep accelerates cardiovascular recovery after psychological stress. International Journal of Behavioral Medicine; DOI 10.1007/s12529-011-9150-0

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